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FRONT COVER: *"Life Guards in the Mall," by G. F. Allen*

OUR CONTRIBUTORS

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The Remarkable Silicones

By John Stafford (Nobel Division)

Silicones are a remarkable chemical. They help to protect the walls of a house against rain but allow it to "breathe"; they help a shower to run off your clothes without wetting them; they lubricate polishes to make them easier to apply; they prevent bread from sticking to baking pans; they stop oil from becoming too thick when cold; and they make rubber stand up to the great heat and great cold of jet flying at high altitudes. They are now made by Nobel Division, and have without doubt a tremendous future.

A PLANT to make a new class of chemicals called silicones has been working for the greater part of the year at Ardeer factory in Nobel Division. Much of the original research work on these compounds was done by Professor Kipping at Nottingham University during the period 1900–40. Silicones, however, were first marketed commercially in the United States, where during World War II silicone greases became very important in some electrical applications in aircraft.

Perhaps the most astonishing feature of the silicone group of compounds is that they can be obtained in such diverse forms as oils, resins, rubbers, greases and emulsions. All these types have certain outstanding properties in common—namely resistance to extremes of temperature, good electrical characteristics, ability to shed water, inertness, and anti-stick properties.

Because of their ability to resist extremes of temperature, silicone oils, resins, rubbers and greases are used extensively in modern high-flying, high-speed aircraft.

While natural rubber and all the modern organic synthetic rubbers were adequate for aircraft flying at 400 miles per hour at heights up to 25,000 or 30,000 feet, modern aircraft, flying up to 50,000 feet and at speeds approaching that of sound, require silicone rubbers because of the resistance which these rubbers show to the ozone occurring in high concentration in the upper atmosphere. Silicone rubbers are able to withstand temperatures varying from minus 70° C., met when flying at moderate speeds at these heights, to 150° C., met when the aircraft reaches supersonic speeds.

The door seals, flap seals, de-icing pads, engine thermocouple harnesses, switch covers and hot air ducting of many of the up-to-date aircraft flying today are made from silicone rubber imported by I.C.I. from the General Electric Company in the United States. In future they will be made from silicone rubber produced at Ardeer.

The electrical industry generally is making increasing use of silicones. Silicone resins are used in conjunction with inorganic insulating materials such as glass cloth, glass fibre and asbestos to give high-temperature insulation in motors and transformers. Silicone rubber is used for insulating cable which can be operated continuously at temperatures up to 180° C., where all normal rubbers fail.

In the American navy every ship built since 1947 has throughout its entire structure silicone rubber insulated cable armoured with fibreglass and metal braid. This has been done because this type of insulation will remain effective even after a big fire. When the silicone rubber covering is burned, then the residue, which consists entirely of non-conducting silica, is held in place by the sheath and continues to insulate the cable, thus allowing the ship's electrical gear to continue working.

However, it must not be thought that the applications of silicones are all to be found in equipment for the armed services. Silicone is now almost a household word, because silicone oils are used in the latest car and furniture polishes.

Though the silicone oil itself is not a polish, it lubricates the particles of wax which are the essential ingredient of most polishes and enables the wax to be rubbed out more smoothly and more evenly with the minimum of effort. Thus polishes using a silicone additive are much easier to apply and are very much worth the additional premium charged for the silicone oil. A very highly glossed surface is obtained with very little work.

Protection against Rain

Because of their ability to shed water, silicones are also used in the form of resin solution for coating masonry and brickwork to prevent penetration of rain. They differ from conventional masonry water repellents in that they repel liquid water but not water vapour, and thus they allow the masonry to "breathe."

Hundreds of houses have now been successfully treated in this country, and sales are increasing satisfactorily in spite of the fact that about three rainless days are required before the resin can be applied to the masonry surface.

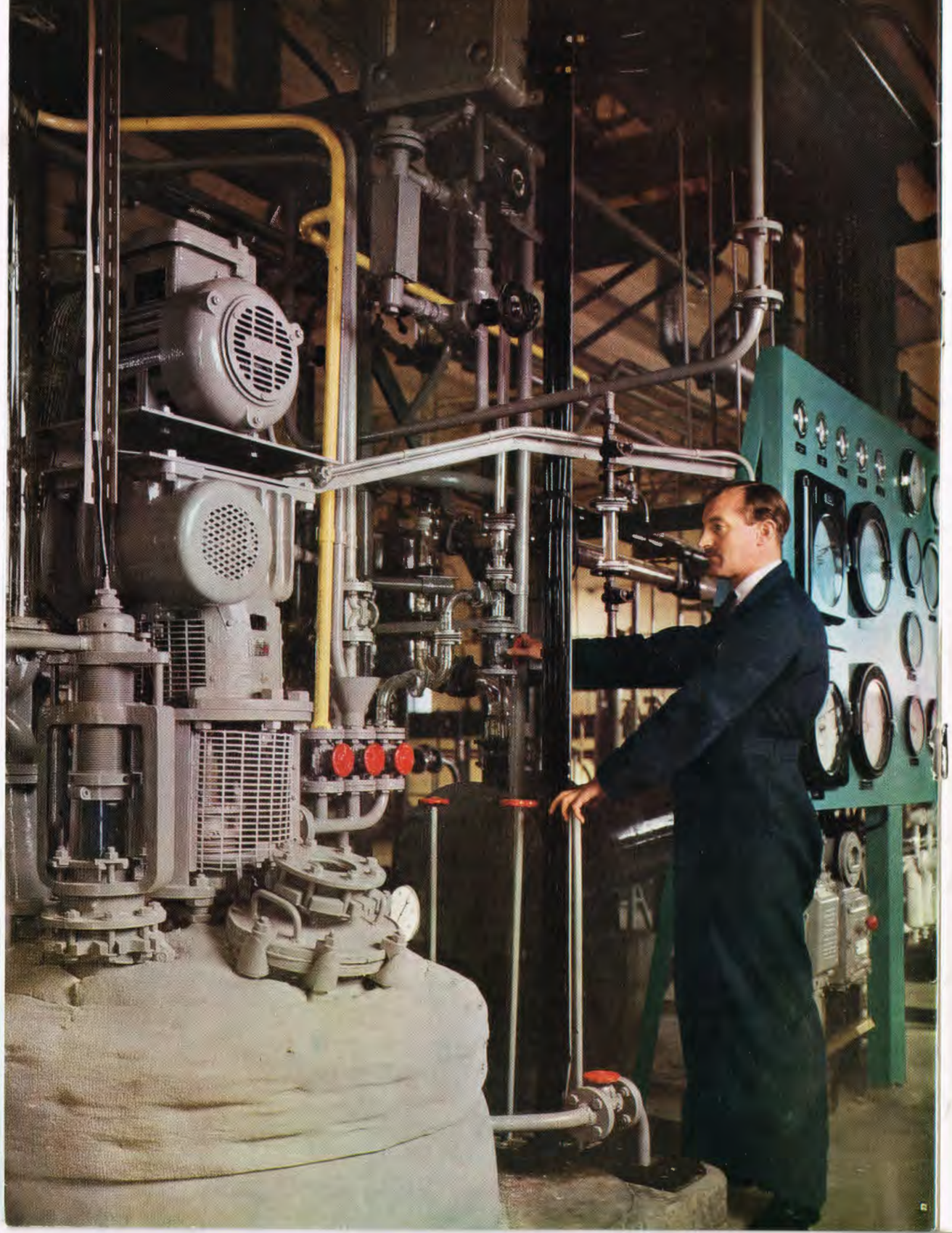
Silicone-treated Textiles

The waterproofing qualities of the silicones naturally make them of interest in the treatment of textiles. A process for making fabrics water repellent has been developed at Ardeer and will be released shortly to the textile industry.

Unfortunately the process has to be applied to the cloth before making up the garment, and so far no method has been found of giving the treatment to finished clothing. While the treated textiles are very water repellent, they are comfortable to wear because the silicone treatment does not interfere with the passage of water vapour. In addition to being water repellent, silicone-treated clothing is stain resistant, and any ink marks or other water-borne stains can easily be washed off such garments.

In the leather industry the water-repellent properties of silicones are showing considerable promise. A new process using silicones has recently been tried out at several tanneries in this country and is likely to come on to the market some time this year. This process is especially applicable to suède leathers but may be extended to garment leather, shoe uppers, handbags and leather cases.

The water-repelling property of silicones is being



Inside Nobel Division's silicone plant at Ardeer

actively exploited by Dyestuffs Division, who package penicillin in liquid form in silicone-treated glass ampoules. Silicone-treated glassware is not wetted by water, and one can thus get even the last drop out of treated containers. This is most important in the pharmaceutical field, where medicines are usually expensive. When a certain volume has to be extracted from an ampoule for an injection, it is most annoying to get less than the required volume because drops remain sticking to the glass.

The anti-stick properties of silicones has led to the development of a multitude of applications in many industries.

Eliminates Greasing

Bread pans in most modern bakeries are lacquered with a silicone resin to eliminate the necessity for greasing the pans with fat each time a loaf of bread is baked. In the manufacture of rubber tyres the moulds are treated with silicone oils so that the tyre can be extracted easily from the mould. In the linen industry drafting rolls are coated with a silicone oil to prevent adhesion of flax fibres. Rolls covered with silicone rubber are used in many textile and paper coating factories to prevent adhesion of coating compositions, glues and sizes.

The name silicone oil given to the liquid silicones is perhaps somewhat misleading, since these materials as known at present are not in fact good lubricants. Though silicone oils and greases are recommended by some manufacturers for lubricating certain mechanical systems under conditions of light loading, there is much room for improvement in the silicone oils before they will become really useful in the lubricant field.

Further Research

Extensive research work to achieve this end is being done by Nobel Division, and some advances have already been made. For example at the Electrical Engineers Exhibition held in Earls Court, London, much interest was stimulated in the trade by the fact that we exhibited a 3 h.p. silicone-insulated electric motor running at 180° C. on bearings lubricated with an experimental silicone grease.

As soon as the lubricating properties of the silicone have been improved sufficiently, vast new fields will be opened to the silicones as lubricants and hydraulic fluids. This is because the variation of their viscosity with temperature is much less than is experienced with normal oils. Normal oils become very thick and immobile at low temperatures and very thin at high temperatures, whereas silicone oils retain their normal consistency both at low and high temperatures. This constancy of viscosity has made the silicone oils very suitable as damping fluids for instruments, since they stop the flickering of indicating needles equally well at all temperatures.

Anti-foam Properties

The silicone oils also have peculiar properties in that they can cause changes in foams, emulsions and dispersions of fine particles. For example, a silicone anti-foam agent is used by Plastics Division to prevent foaming in P.V.C. manufacture and by Paints Division in their resin kettles. Silicone anti-foams are also used to inhibit foaming in such diverse industries as antibiotic manufacture and the dyeing of yarns. The Gas Board employs a silicone oil to break tar emulsions. A silicone anti-floating agent is used by Paints Division to prevent the phenomenon of "silking" or separation of fine particles of pigments in paints.

Chemically, the silicones are strange in that they are partly organic and partly inorganic in nature. The organic portion is usually made from methyl chloride or chlorobenzene, both of which are essentially derived from coal and salt. The inorganic portion is derived from silicon metal made by reacting sand with coke at a high temperature in an electric furnace.

Increasing Sales

Shortly after the war finished, two American companies, the Dow Corning Corporation and the General Electric Company, built large-scale silicone manufacturing plants and by 1952 were selling 3000 tons of silicones a year in spite of the fact that the average selling price of these products was of the order of 25s. per pound. Sales are still increasing rapidly in America and are now in the region of 5000 tons a year.

Attracted by the potentialities of silicones, I.C.I. negotiated an agreement with the General Electric Company to manufacture these products under G.E. patents in this country. While the necessary plant was being designed and erected I.C.I. imported G.E. silicones, which were repacked and sold to the British market to explore the most likely outlets here. This exploration stage is now nearing completion, and home-produced silicones will soon be available to meet most of our customers' demands.

One man and his job—37

BURSTING-DISC MAKER

It could fit a Jack Warner programme—"I'm a buster-up of bursting-discs." Except that there is nothing funny about bursting-discs: they do a fine safety job in pressure lines and vessels throughout I.C.I. at home and abroad, and the great majority are made at Billingham by one man.

"We have made our 100,000th bursting-disc." The telephone call was from the Stress Analysis Section of Engineering Research Department, and it sent me round to see Dick Watchorn, tall, talkative and merry-eyed, as if an imp of humour was always tickling him.

Dick came from Lincolnshire to Billingham in the early 1920's with a firm of engineers who were erecting pipelines and installing machinery in the quickly growing factory. When the job finished he stayed on, and in 1933, with the manufacture of bursting-discs well established to meet Billingham's own needs, he migrated to the lab which is now part of the Stress Analysis Section.

He makes discs—and he makes bangs.

"Come over here," he said, edging me into a corner behind a mass of pipes. He spoke with a hint of humour which said "Ah, another victim!"

"Don't jump," he said. "Watch the dial. It will go off around 120."

He cut a disc of aluminium with a large pair of tinsnips, punched holes round the edge, bolted it to a metal flange, cloaked it with a heavy sheet of rubber to prevent pieces flying, and turned on a valve.

"Watch the dial," he said. The needle went quickly round—80, 90, 100 lb. to the square inch; then slowly, 110, 120, and still no bang. I lost my preparedness and stood relaxed; then—at 122—there was an almighty bang.

I have a suspicion Dick understated deliberately the bursting pressure, knowing what would happen and just to see me jump.

A safety device to ensure that pressure does not rise dangerously above the normal working pressure, a burst bursting-disc results in a rapid let-down of pressure. It is simple, is bolted between two metal flanges, and in many places is more convenient than a pressure release valve.

Discs vary in size from tiny ones no larger than a man's thumbnail to those made of canvas and rubber more than five feet across. Mostly they are made of metal, the common metals such as aluminium, copper, nickel, lead and stainless steel, but in special cases use is made of platinum, silver and palladium, and there are some consisting of gold-leaf on copper. Thickness varies from one and a half thousandths of an inch to one-sixteenth of an inch.

Constant research goes on into the manufacture of the discs. It is essential that all discs designed to burst at a specific pressure shall burst at or around that pressure. If one bursts too soon, it causes unnecessary production delays; if it does not burst soon enough, then there is danger. So the aim is uniformity, and for this purpose there is constant trial of metals and tests of the effect of temperature and corrosion.

And those bangs are Dick testing discs to ensure that each batch he makes will do their designed job.

After being shaped by hand, or by machine where thicker materials are used, the discs are "dished," and to give them this effect is part of Dick's job. The method is simple: each disc is tested to the normal working pressure, and it is this that "dishes" it. This serves two purposes—it ensures that the disc will withstand the normal working pressure and that its appearance is distinctive, so that there is no mistaking it for something else.

At one end of the scale discs are tested to burst at little more than atmospheric pressure and at the other end at 600 atmospheres—9000 lb. to the square inch. In experiments metals have been tested up to 2000 atmospheres—and Dick does all the testing.

One hundred thousand bursting-discs. "With the exception of about 5000," Dick said, "I've made all of them—and we've never yet had a complaint."

And that says a lot for Dick's workmanship, for although Divisions of I.C.I. absorb most of Billingham's output there are customers in many foreign countries, and customers at home include the Admiralty and the Atomic Energy Authority.

J.E.M.

Dick Watchorn

CENTRAL COUNCIL

The admission of "observers" to future Central Council meetings and a probable increase in the Sickness Scheme benefit were the best news from Blackpool; a surprise item was the presentation of the I.C.I. Bravery Award to a Billingham worker.

Sketches by Sallon

BLACKPOOL was shrouded in fog when Central Council met there on 18th November, but inside the Winter Garden issues were clear and were clearly resolved. Mr. T. W. Davies (Metals Division), newly elected chairman of workers' representatives, said at the end of the day that this Central Council might well go down in history as the "generous council."

It was Mr. Davies who opened the proceedings by congratulating the Chairman on the knighthood that had been bestowed on him since the last meeting of the Council. The Chairman in his speech referred with sympathy to the illness of Mr. McCall, who had on so many occasions been chairman of workers' representatives, and to the death of Mr. Tierney, who would always be remembered at Central Council in connection with the I.C.I. tie. After explaining that three members of the Board were abroad on the Company's business, the Chairman referred to his own recent travels. Since the last meeting of Council, he said, he had visited nearly all the European countries which were important to the Company, and in the last few weeks he had been to Brazil, Argentina and Uruguay.

Mr. T. W. Davies

Chairman stresses Exports

The Chairman spoke of the new practice of issuing a half-yearly report on the Company's activities and reminded the Council of what had been revealed in the report for the first half of 1955—a story of continued progress, with a consolidated turnover of £206m., an increase of 11·7% over the comparable figure for the first half of 1954. He pointed out that the estimated net income of the Company for the half-yearly period, approaching £21m., had not kept pace with the turnover, and gross profits had increased by only 4·7%. "In other words," said Sir Alexander, "although we have done more business we have had lower profit margins."

The Chairman then passed to the Company's export trade and referred to the impact of the dock strike on this. "Exports," said Sir Alexander, "are essential to our prosperity as a company because we cannot exist on the home market alone.

"Many of our plants, particularly the new ones, have to run near to their rated capacity if they are to pay their way. This means that there must be an appropriately high level of sales, because obviously we would not survive long as a company if, for any length of time, we were to manufacture a greater amount of any particular product than we were able to sell.

"Furthermore, there is the whole problem of standing charges on a plant, which do not change in direct proportion to changes in production. These include depreciation, factory overheads and, on the human side, the wages and salaries of people who are indirectly employed. Thus the depreciation on a plant is the same whether it is working at 100% of rated capacity or only at 50%. As a broad generality, the gatekeeper and the loco driver have to be paid the same whatever the level of output. You will appreciate, therefore, that these standing charges are such that if output falls because of reduced markets the cost of production per unit of output will rise, thus making the final price of the product more expensive. Therefore we have to sell near to the rated capacity of our plants if we are to manage our business with the highest efficiency and if we are to make a profit. It requires only a small falling off in demand to cut into that profit very seriously—perhaps even to take it away altogether.

Dr. R. N. Kerr

"It is against this background that we have to consider the importance to the Company of our export trade. Since last year our direct exports represented some 27% of our total sales, it is obvious that if we did not export, not only would the Company be in difficulties about its profits but also the price of our products on the home market would have to be higher, with the result that we would certainly lose home business as well.

Mr. W. Lamb

"I must tell you that in some of our export markets competition has become very severe. We are holding our own, I am glad to say, but it is a tough struggle. It means that we cannot afford any increase in our manufacturing costs, as such increases cannot be passed on to our customers. In fact, the trend is all the other way: we are having to trim prices to meet competition. So far we have done well, but the margin between success and failure is far narrower than people realise. Our colleagues in our overseas companies are doing a fine job, but we must back them to the full and help to make their job easier by continuing to improve our level of efficiency, thus ensuring that we do all we can to keep down our manufacturing costs."

Speaking of automation, the Chairman pointed out that there was in fact nothing very new about it. It was a process that as automatic control had been known since I.C.I. was formed; although there was likely to be a quickening of the rate of change to automatic control, in so far as new plants would be more automatic than their predecessors, these changes would be gradual rather than sudden. Their object would be to increase productive efficiency. People wondered, of course, if this trend would lead to redundancy. Obviously fewer people would eventually be required to perform the same task, but this type of displacement would help us to offset the nation-wide shortage of industrial labour and to deploy our work force to better advantage. If management showed imagination, foresight and good planning and the factory payroll workers flexibility and willingness to learn new techniques, the problem of technological redundancy would not be a serious one.

Bravery Award

There was one item of business that did not appear on the Council agenda—the award of the I.C.I. medal for bravery to Mr. J. Steward of Billingham Division. Mrs. Steward was present to see Sir Alexander Fleck pin the medal on her husband and hear Mr. W. J. V. Ward, Billingham Division chairman, read the citation.

Mr. Steward was acting process chargehand in the L.P. compression plant of Billingham Ammonia Works when a serious explosion took place on 22nd September. One man was killed instantly, another died from his injuries, and two were seriously hurt by the explosion. Without regard to his own safety Mr. Steward made safe the machinery still running; he was exposed to great danger from burning hydrogen, escaping high-pressure steam, flying glass and falling roof sheets, and he had to be forcibly restrained from entering the plant a second time to assist in the search for the injured men.

Observers at Council

The scheme mentioned by the Chairman at the Annual General Meeting to make ordinary and preference shares available to employees at a discount was reported on by Mr. Banks. There were many difficulties to consider—such as the taxation that might arise and whether it was best to allow the shares to be bought by instalments or outright—and he still had no definite news to give the Council. Discussions, he said, were still proceeding.

If this news was disappointing, the next item on the agenda provided satisfaction for everyone. At the previous meeting the question had been raised of allowing observers at Central Council. Mr. Grint announced that the Board thought it was a good idea, and agreed that a number of observers equal to half the present number of full council members might attend—news which Mr. Allardyce (Billingham) greeted as "exceeding our wildest dreams."

Mr. H. Yarwood

The observers will be workers and management representatives in equal numbers, selection methods being left to Divisions.

No Discount on 'Dulux'

I.C.I. paints came in for some unsolicited testimonials with a Billingham motion urging the Company to allow everyone a discount on 'Dulux,' no matter

where they worked. Mr. F. Ireland (General Chemicals) said it was very nice being able to buy the products of one's own Division cheap—but not if the Division made things like ammonia liquor and distilled water. Mr. G. R. Carman (Salt Division) said that his Division's product could be carried away from work, gratis, in one's trouser turn-ups.

Miss Emma Hackett

Mr. W. J. Worboys (Commercial Director) was not to be diverted by the good opinions he heard of 'Dulux,' however. He pointed out that Paints Division's good relations with its network of thousands of retailers would be seriously jeopardised if this concession were granted. He reminded delegates that 'Dulux' was still a "jolly good buy" even at the full retail price.

Paint is a subject that sticks to Central Council however, and Mr. Hutton stood firm in his resolution that the matter should be reconsidered. A good majority of representatives voted with him, but there were enough dissenters for the resolution to be referred back to Division Councils.

Bicycle and Sandwich Brigade

The "bicycle and sandwich brigade" was referred to by Mr. J. Fowles (Alkali Division) when the subject of canteen prices came up. Unless prices were reduced, Mr. Fowles said, the number of people who dashed home for lunch, a menace to their own health and safety, would increase.

Mr. J. D. Maughan (Alkali) supported him with a gloomy picture of Winnington canteen's declining turnover. He had come to the conclusion that the real cause was consumer resistance to price, and suggested the only way to break it was to lower prices. There was a strong body of opinion in the Alkali Division for a shilling meal.

Mr. Grint said the question of canteen prices was not a new one. The Board by their actions in the past had shown that they regarded this as an important item of welfare; but councillors must appreciate that the Board could not really be asked to sanction losses unless they were reasonable in relation to the overall position.

In May 1953, when the prices of canteen meals were last raised, the Board was prepared to meet a trading deficiency of £170,000 and indirect charges of £250,000 per annum. Since 1953 there had been no changes in canteen prices, but during that period the deficit had increased and was likely to reach £350,000 this year, while the charges on the indirect account were likely to be £400,000. The Company was in fact subsidising the canteens to the tune of £750,000 a year, and he thought these figures should be carefully considered before further reductions in canteen prices were asked for.

Profit Sharing Scheme

Two matters affecting the Profit Sharing Scheme arose from the previous Council. One resolution had then asked the Company to consider allowing employees under 21 to participate, which now brought a cautious reply from Mr. Banks. The Board, he said, were against tinkering with the mechanism of the Profit Sharing Scheme so soon, since it had been very carefully thought out and each part of it was dependent on other parts. He thought that it would be wise to wait until a year from now before any changes were definitely considered. Mr. Davies offered to withdraw all new resolutions affecting the Profit Sharing Scheme, but the Chairman ruled that although no action would be taken on them yet, they would be a useful gauge of opinion for the Board.

Dr. A. Caress

The other resolution, which brought a number of speakers to their feet, sought to allow an employee discharged for misconduct to retain any stock in the Profit Sharing Scheme held for him by the trustees. Mr. Hill reported that although there had been 100 cases where forfeiture might have operated, it had only done so in four. Nevertheless, the motion was carried by a substantial majority. So too was a new resolution about employees called up for national service; it asked that their service should be counted as I.C.I. service for bonus purposes if the employees rejoined I.C.I. immediately on demobilisation.

After lunch Mr. P. K. Standring, director responsible for dyestuffs and pharmaceuticals, gave a talk entitled Colour; compressing the story of dyestuffs from the time of Perkin to the present day into the space of half an hour, Mr. Standring managed—with the help of dramatic practical illustrations—to invest the subject with a romance and magic that are not easily conjured up at half-past two on a foggy Blackpool afternoon.

Mighty Mouse

The skilled advocacy of Mr. J. Auld and Mr. H. Burns of Nobel Division drew from the Chairman a promise that he would bring all his sympathy and weight of persuasion to sway the Board to accept a resolution on the Sickness Benefit Scheme. It asked that consideration be given to increasing the benefit from £1 per week to £1 10s.

The famous Alkali Division "mouse," which has already earned its inventor £500, stole the limelight again in the report on the Suggestion Scheme with the news that a supplementary award of £450 has been awarded the inventor.

On the safety front there was a departure from what has become almost a tradition when Sir Ewart Smith sat back to hear Mr. R. A. Banks deliver the exhortations that he had so often delivered himself. Mr. Banks said he hoped the steady downward slope in the accident rate would not falter now that Sir Ewart had relinquished his very personal interest in safety—an interest that had contributed so much to what had been achieved. He gave a caution against complacency and pointed out that no fewer than six fatal accidents had taken place in the first half of the year.

The Chairman presented the I.C.I. Accident Prevention Trophy to Mr. G. H. Beeby, Chairman of Salt Division; the Division's improvement on its previous best rate had reached an impressive 30% during the current period. M.J.D.

A CHRISTMAS QUIZ

Set by P. C. ALLEN

Answers on page 380

A. General Knowledge

(1) Who had a spear called Ron? (2) What is the weight of a Pullthrough? (3) What is the opposite of the Distaff Side? (4) What does V.S.O.P. mean? (5) Where are Ae, Quy and Cwm? (6) What is the Vulgate?

B. Quotations

1. Who said "Some people have a foolish way of not minding, or pretending not to mind, what they eat"?
2. Who wore "a row of bald old curls, that could scarcely be called false, they were so very innocent of anything approaching to deception"?
3. Whose last words were "It's a long time since I've had any champagne"?
4. Whose motto is "*E pluribus unum*"?
5. Who said "Work is the curse of the drinking classes"?
6. What should you never put on cold marble?

C. Hotels and Restaurants. Where are:

(1) The North Euston. (2) La Perouse. (3) The Prospect of Whitby. (4) Jockey. (5) Skindles. (6) The Galle Face. (7) The Wagons Lit. (8) Hotel des Indes. (9) The Gritti Palace. (10) The Machado.

D. Sport

1. Whose ground is the Baseball Field?
2. Who lost the Open Championship because his ball got into a bottle?
3. Where was the Railway Straight?
4. Who was the last man to hit a ball over the Pavilion at Lords?
5. Which team was the last to win the F.A. Cup and the League Championship in one season?
6. What is the Knavesmire?

E. Travel

(1) Where is Dyce Airport? (2) Where is St. Mary Redcliffe? (3) Where is Bat and Ball Station? (4) Where is Idlewild? (5) Which ship holds the Atlantic record? (6) What would 2.231.E.16 be? (7) Where is Zoo Station? (8) Where is Ste. Gudule?

F. Missing Names

1. Negretti and ——
2. Steel Peech and ——
3. Dumkins and ——
4. Sir Arthur and Sir ——; Sir —— and Sir ——
5. Ananias, Azarias and ——
6. The King sits in —— town.
7. Change for Fenny Stratford and the —— —— line.

Garden Notes

By Philip Harvey

Illustrated by Miles Chance

CARELESS picking of apples and pears accounts for subsequent failure to keep during storage. *Apples and all fruits must be picked when absolutely dry*. A cool, dark place with a floor of concrete, brick, tiles or earth is essential, wooden floors being too dry. A stone pantry, garden shed or garage, provided the latter is well ventilated and the floor damped down periodically if the atmosphere becomes very dry, are all suitable.

Apples and pears must be kept in an even temperature. A draughty position rapidly leads to shrivelling. They can be stored in boxes of sand on the floor, or in deep drawers one on another with intervening sheets of paper. When storing on floors do not spread out on straw, as this material sometimes gives a musty flavour to the fruits.

Examine your apples about every ten days, and if you notice any cracks or other blemishes remove any such fruits promptly, otherwise they will contaminate their neighbours.

Pears are a more tricky fruit than apples. They do best in a warm, sheltered position and in this country usually fare better south of the Trent. A hot summer ensures a heavier crop, and for this reason pears have given better results in many gardens this year than in the damp, sunless summer of 1954.

Pears ripen unevenly, and you must inspect stored specimens more frequently than with apples. They are ready to eat when the flesh round the skin yields to slight pressure of the thumb, individual fruits only remaining really good eating for a few days. Pears ripen very quickly if brought into a warm living room.

Doyenné du Comice is the equivalent in pears of *Cox's Orange Pippin* but is decidedly fussy and an irregular cropper in some gardens. I mention this variety because you may have tasted bought Comice pears or from a friend's garden and subsequently resolved to grow them yourself. My advice is to forget Comice unless you can give it a warm south or west wall and you know that other gardeners in the same area have been successful.

Conference is a much better proposition, and where only one variety can be grown this should be chosen in preference to any other pear. It is both sweet and juicy, though not quite up to the superlative standard of a Comice. However, those of us who favour a red Burgundy are quite satisfied with a light Beaujolais in place of a full, mellow Nuits St. Georges, and the distinction between Conference and Comice is, I think, a point for the connoisseur.

Conference is self-fertile, which means that you need not worry about planting other varieties as pollinators. At the same time it is a good pollinator for pears such as *Beurré Superfin* and the well-known *Williams' Bon Chrétien* and is also resistant to pear scab and late spring frosts.

In recent years both gardeners and commercial fruit growers have substituted a gamma-BHC spray in spring for the traditional tar-oil spray, as the former is more economic. BHC does not, however, burn off moss and lichen, which are often troublesome on old, neglected apples, pears, cherries, etc., and if you have any such trees, spray now with 'Abolene.'

Remember to finish any pruning before applying a winter wash, otherwise you will be spraying growths which are destined to be removed later. You should also cover any vegetables and flowers beneath the trees with sacking to prevent spray drop.

Winter pruning is intended to stimulate wood growth, whereas summer pruning aims at encouraging the formation of fruit buds. With winter pruning leaders are shortened by about one-third, laterals being reduced to about four buds.

Very severe pruning of fruit trees is definitely detrimental, as excessive wood is encouraged at the expense of fruiting. Broad generalisations can be dangerous, but it is generally accepted nowadays that strong-growing apples should be pruned lightly, weaker growths being cut back more severely. For example, *Blenheim Orange* demands light pruning and *Early Victoria* relatively hard cutting back.

Is it worth growing vegetables in your own garden or allotment? This may seem a silly query, but it is not just a question of economics. Fresh vegetables gathered from your own plot are invariably superior to those bought from the greengrocer. You can also grow the best-flavoured varieties, whereas the commercial grower is compelled to consider market requirements.

Seed catalogues are usually available from December onwards, and it is a good plan to estimate your requirements now. Many amateurs buy more seed than they really need. Thin sowing of all seeds is invariably more economic. Indiscriminate, thick sowings result in weak seedlings which rarely mature properly. This is particularly true of lettuce and carrots. With the former, little and often is the best rule.

Large seeds such as peas and beans should always be spaced out separately. Catalogues frequently specify the quantity of seed needed for a row *x* feet long.

I shall recommend next month a few varieties which I have found successful.

African Hotel

By Michael Bonfield (Salt Division)

It is evening—almost any evening—in a West African hotel. With vivid touch and deadly observation the scene is brought to life and shows one aspect of the impact of Western civilisation on modern Africa.

Illustrated by A. Horowicz

I HAVE just come back from West Africa after spending a year and a half there. I should like to tell you something about Nigeria which you cannot get from standard books describing the country and its climate, the people and their customs. Plenty has been written about the African in a primitive state, so I want to show you how the modern African reacts to Western influence by describing life in an African hotel where I once stayed.

This hotel presented a glistening white front to a main street busy with lorries, goats, sleek American limousines and gesticulating pedestrians in gaily coloured robes. It announced its name in colossal chromium-plated letters across its face. When I first came to it it was still quite new, but already a few letters were missing. They were never replaced.

On one side was a photographer's parlour specialising in portrait studies in the style of eighty years ago. The best examples, framed outside the door, were of young men in knife-edge suits and young women in impossible frills gazing with the eyes of stuffed animals from a backdrop of a Highland glen. On the other side was a native chemist's, which attracted custom with this notice:

> Ihezue's Herbal Home
> Reg. in Nigeria No. 25,000
> A fortune teller and herbalist undertakes
> quick release from belly troubles, eye
> troubles, pneumonia and general imbecility,
> gives charms against witchcraft, for winning
> cases and for success in every business.
> Try and be convinced.

His own business appeared to be far from prosperous.

The whole of the ground floor of the hotel was given over to a massive bar backed by no fewer than eight refrigerators, each crammed with bottled beer. In the courtyard at the back to which the bar gave immediate access was a dance floor of concrete under coloured fairy lights euphemistically called the "Floor Garden." This was the real heart of the hotel and around which it was built.

During the day the hotel slept, waiting for the night. The barman slept stretched out along the top of the bar, the waiters, barefooted, in the easy chairs. The flies buzzed against the window-panes, chickens tiptoed about the room, and occasionally small boys would come and go on mysterious errands, or perhaps just exploring.

But with the evening life began to stir again. A four-piece band led by a saxophonist in a wide-brimmed trilby would arrive and begin to practise uncertainly until the bar started to fill up and overflow into the Floor Garden. Now the barman leaped to the refrigerators, the waiters ran about, kicking the hens outside, cuffing the small boys, precariously balancing trays of drinks. Then the coloured lights would come on, each with its halo of moths and flying insects, above the chatter, the bright cotton prints, the bottled beer and the lugubrious disharmony of the band.

At about half-past seven the band would plunge with unsuspected confidence into its first hot number. The effect was electrifying.

Rhythm is in the African's blood, and dancing is his most lucid expression of it. Music pulls him to his

A particularly lively tune would sometimes draw an exhibitionist out of the crowd to perform an exotic pas seul *in front of the band . . .*

feet like a puppet on a string. In a moment the floor would be packed. Laughing, shouting men and women, with or without partners, would begin to sway and turn and shuffle to the urgent throb of the music. You could not help but laugh with the irrepressible gaiety of the dance. This was not the glacial intricacy of ballroom dancing nor the frenzy of the jitterbug, but a spontaneous expression of the joy of living. Even the waiters danced round the tables with the drinks like players in a musical comedy; while Oxford graduates, drivers' mates, portly traders, clerks, Cabinet Ministers and cocoa farmers seethed round in a kaleidoscopic pattern of form and colour.

They liked best the tunes they knew, particularly those with a strongly accentuated beat. A particularly lively tune would sometimes draw an exhibitionist out of the crowd to perform an exotic *pas seul* in front of the band, whose leader would jump up and blow his brassiest jazz, making a competition between dancer and player, to the huge delight of the crowd, until one or other became exhausted. Sometimes a pirate band would slip in unnoticed and start up in a corner, attracting its own circle of dancers. No one seemed to mind.

Every night was carnival night. With inexhaustible gaiety the same customers would come night after night to spin and stamp to such indestructible Nigerian favourites as "High Life," "Old Calabar" and "I Love Yoruba Girl"; and to stumble protestingly out in the early hours of the morning (for Africans have very weak heads for drink).

I used to sit on the balcony and watch the neighbours' children on the other side of the wall. There were half a dozen of them, aged from two to five, and every night in the reflected light of the Floor Garden they too would dance, in silent absorption, undulating and turning, completely unselfconscious, responding instinctively to the rhythm from beyond the wall.

Towards midnight the music and the dance would approach an almost tangible climax of sound and movement and colour; to disintegrate in a moment when the band stopped and packed their intruments. The crowd would drift away, leaving only the empty bottles, the chairs and tables, and the quiet hot night.

NATIVITY—*Masaccio* (1401–1428)

By courtesy of the National Gallery

THREE NATIVITY PICTURES

By Professor Thomas Bodkin

UNTIL the close of the fifteenth century, almost every picture painted in Europe had for its subject some theme drawn from the Christian tradition. Even today about a third of the pictures in the National Gallery represent some aspect of the Blessed Virgin.

More than forty pictures—Italian, Dutch, French, Flemish or Spanish—depict the Nativity. These were all painted before their artists could have acquired any notion of the historic costumes or the landscape of the Holy Land. So the scene is usually set in the sort of surroundings that were most familiar to the public of their time, and the personages are dressed in the sort of clothes which were then worn. These did not look incongruous to the contemporary spectators, who knew of no other styles; and they do not offend us moderns because they have become so remote from the familiar fashions of our own day.

The earliest of the three pictures here reproduced is possibly by the Florentine painter whose full name was Tommaso di ser Giovanni di Simone Guidi di val d'Arno. Partly for the sake of brevity and partly to distinguish him from his master Tommaso Fini da Panicale, who was nicknamed Masolino (that is, Little Tom), he was always known as Masaccio (that is Hulking Tom).

He was born in 1401 and died twenty-seven years later, very suddenly, but not before he had established his reputation as being the greatest of Florentine painters since the days of Giotto, who lived a century earlier. Leonardo da Vinci, Michelangelo and Raphael all studied in their youth from the famous frescoes which he had painted for Felice Brancacci in the Church of Santa Maria del Carmine in Florence, most of which still survive, though in a somewhat damaged state.

The authorities at the National Gallery do not claim positively that this little picture, which only measures eight inches by twenty-five, is by Masaccio. They incline to attribute it to someone of his school, possibly to Andrea du Giusto, one of his best followers. But whoever may have been the actual painter, it is safe to say that it never could have been produced save under the influence of Masaccio himself. The composition, the colour scheme, the realistic landscape, the gift of story-telling are all characteristic of the master, of whom Leonardo said "He showed how all they who take any teachers but nature—the mistress of all masters—labour in vain."

The next picture was painted far away from Florence, about a hundred years later, by the Flemish master Jan Gossaert, who was sometimes called Mabuse because he was born at Maubeuge in Belgium. Though he cannot have been much more than 25 when he finished it, about the beginning of the sixteenth century, it is still admired universally as one of the greatest altar-pieces of the early Flemish school, not only because of its size (nearly six feet square) but because of its brilliant colouring, its decorative quality and the amazing minuteness of its detail.

The little dog on the right, borrowed from an engraving of St. Eustace by Dürer, is certainly one of the reasons which caused it to be attributed to that master in the eighteenth century, when it was in the collection of Prince Charles Alexander of Loraine. But the critics of that day cannot have examined it closely, for in fact it is signed in two places: in part on the collar of the turbaned attendant and again, in full, on the magnificent headdress of the black king Balthazar who bears forward from the left

ADORATION OF THE KINGS—*Mabuse* (1472–1534

By courtesy of the National Gallery

his golden casket as an offering to the King of kings.

The third picture, which is about a quarter of the area of Mabuse's "Adoration of the Kings," is also a work of the Flemish school and was painted by Jan de Beer, who was born two or three years later than Mabuse and died about the same time. There is an unmistakable family resemblance between the angels in both paintings.

This picture may have been originally designed as a screen or shutter, for on the reverse side of the panel on which it is painted is another picture of St. Joseph being selected by the high priest, from a group of

NATIVITY—*Jan de Beer*

By courtesy of the Barber Institute, University of Birmingham

young men, to be the husband of the Blessed Virgin. This is a most unusual subject in religious iconography. The painter also shows his originality in depicting the Nativity in a nocturnal setting.

Night scenes present great problems for painters, very few of whom, with the notable exception of Rembrandt, have ever succeeded in solving them. But as we look into the enveloping shadows of this audacious rendering, our eyes gradually come to distinguish incidents, figures and details that were imperceptible to our first glance.

Two things should be borne in mind when looking at the admirable reproductions of these three pictures. Firstly, the fact that each was painted primarily in response to a genuine religious impulse. Secondly, that reproductions can only be considered really good when they promote a desire to visit and enjoy the original masterpieces from which they are derived.

NEWS IN PICTURES

Visitors *to I.C.I. stand at the British Exhibition in Copenhagen included the King of Denmark, seen (above) with Sir Graham Hayman and the Duke of Edinburgh, pictured with Mr. H. W. Lascelles of I.C.I.'s Scandinavian Liaison Office*

Two members *of Commonwealth Transantarctic Expedition, Mr. R. H. A. Stewart and Flight Lieut. G. Hislop, visited Ardeer to learn technique of handling 'Roburite' explosives. The expedition is also taking 'Terylene' pillows and blankets*

Transport *for sheets of corrugated 'Perspex' in Zanzibar is the traditional hamali cart, used for centuries in East Africa. Inspecting this unusual combination of old and new is Mr. D. A. Tuttle of A.E. & C.I. (East Africa) Ltd.*

At Guildhall conference *of London Industrial Accident Prevention Group: chairman Miss Jane Sturgeon, I.C.I. Safety Department, with (right) Sir Walter Monckton, Minister of Labour, and Sir George Barnett, H.M. Chief Inspector of Factories; (left) Mr. Alderman and Sheriff Waley-Cohen and Sir Ewart Smith. (Photo:* Fire Protection and A.P. Review)

Rain in November *saved the situation on Tees-side. Month after month of drought had left the impounding reservoirs, such as Grassholme (above), at lowest level in history. Wilton and Billingham had cut back water consumption by 25–50% and were faced with a possible shutdown of plant if rain had not arrived. (Photo:* Middlesbrough Evening Gazette)

Bronze plaque *records official opening of C.I.L. 'Terylene' plant at Millhaven, Ontario, by the Rt. Hon. C. D. Howe, Minister of Trade and Commerce. In picture above he is seen (right) with Mr. H. Greville Smith, president of C.I.L. Left: Mr. J. R. Whinfield of 'Terylene' Council chats with the Minister. 300 guests from government, education and industry attended opening*

Big event *in polythene warehouse at Wilton was loading the 2000th ton of 'Alkathene' chips sent out in October. The month's shipments beat previous best by almost 500 tons. On lorry are J. Woolhouse, G. Grainger, J. Willshaw, T. Waines*

Arts and Crafts Exhibition *at Head Office, the first ever held, attracted 430 entries, and was visited by nearly 2000 people. The judges included the Marquess of Ely (photography), Mr. Barnett Freedman (art) and Mr. Ronald Grierson (crafts). Sir Ewart Smith, a deputy chairman of I.C.I., presented prizes and commented on the galaxy of talent*

Four Dyestuffs accountants *above have worked together since 1921. They are L. Birch, chief accountant of I.C.I. (Export); W. Thompson, deputy chief accountant of Dyestuffs; H. Harrison, Division director and chief accountant; F. Green. Picture was taken on occasion of Mr. Thompson's retirement*

Two foremen *and four workers from Leathercloth Division visited Motor Show at Earls Court with Division Production Director, Hyde Works manager and publicity officer, were photographed at Leathercloth Division stand. Visit is annual affair, members of party being nominated by plant managers*

I.C.I. NEWS

INDUSTRY OFFERS £1½m. FOR SCIENCE TEACHING

I.C.I. is one of seventeen companies which have jointly set up a fund to assist the teaching of pure and applied science and mathematics in British secondary schools. They have taken this step, said a statement issued last month, because they view with growing disquiet the shortage of scientists, mathematicians and technologists.

More than £1½m. has already been guaranteed to the fund, which is to be known as the Industrial Fund for the Advancement of Scientific Education in Schools. The Fund will assist Independent and Direct Grant Schools, at many of which the facilities are seriously inadequate through lack of capital resources. The assistance given will be in the form of capital grants towards the building, expansion, modernising and equipping of science buildings.

Mr. R. A. Banks, Personnel Director of I.C.I., is one of an executive committee of twelve which, under the chairmanship of Sir Hugh Beaver, will consider applications to the fund. Its decisions will take into account both the volume and quality of the existing science teaching in any school, as well as the nature of the proposals put forward to extend and improve it, and the steps which the school has taken to help itself.

The other companies sponsoring the fund are: Associated Electrical Industries Ltd., British Insulated Callenders Cables Co. Ltd., British Petroleum Co. Ltd., British Portland Cement Manufacturers Ltd. Group, Courtaulds Ltd., The Distillers Co. Ltd., English Electric Co. Ltd., Esso Petroleum Co. Ltd., General Electric Co. Ltd., Arthur Guinness, Son & Co. Ltd., Imperial Tobacco (Great Britain and Ireland) Co. Ltd., Rolls-Royce Ltd., Shell Petroleum Co. Ltd., Tube Investments Ltd., Vickers Ltd. and the Wellcome Foundation Ltd.

Other companies that depend on adequate supplies of pure and applied scientists and technologists are being approached.

NEW TITANIUM FACTORY

I.C.I. is to build a new factory for the fabrication of titanium near the Metals Division aluminium works at Waunarlwydd. Work will begin as soon as possible and it is hoped that the factory, which will cost about £2m. and employ some 250 people, will be in production in 1958.

Two large-scale plants for the production of titanium and its alloys have gone into production this year—at Wilton where General Chemicals Division extracts metallic titanium, and at Kynoch Works, Birmingham, where Metals Division melts and forges into slabs and bars the granular product from Wilton.

The metal is at present wrought into sheet, strip, plate, rod, tube and wire at Kynoch Works and other Metals Division factories, including Landore and Waunarlwydd. But the demand for fabricated products (particularly sheet, rod and tube for the aircraft industry) is developing so rapidly that the Company has decided to build this new factory entirely devoted to fabrication processes.

Articles on the production of titanium will be appearing in the January and February issues of the *Magazine*.

GUILDHALL SAFETY CONFERENCE

Six hundred executives and safety officers attending a conference held by the London Industrial Accident Prevention Group in October heard Sir Ewart Smith, a deputy chairman of I.C.I. and chairman of the British Productivity Council, speak on Accident Prevention and Productivity.

In the course of his speech Sir Ewart said that in general the accident records of large firms in the U.S.A. were better than those in Britain. He thought this was because American managers were keener on spreading "safety-mindedness" from the top to the bottom of an industry. In one firm in America of which he had personal knowledge each man on the shop floor devoted twenty minutes a week to meetings at which safety was discussed.

Sir Ewart considered that the drive for safety precautions should come from the most senior management. The manager's responsibility did not end, as some people thought, with the appointment of a safety officer.

Sir Walter Monckton, Minister of Labour, told the conference that the problem of industrial accidents was still a large one. Industrial injuries and illness caused through occupational diseases cost the country nearly twenty million man-days a year. On any one day about 60,000 people were absent from work through these causes.

Another speaker was Sir George Barnett, H.M. Chief Inspector of Factories, whose contribution showed that the Government's interest in accident prevention is not merely to see that the statutory obligations are fulfilled.

The conference was held in the Guildhall, by permission of the Corporation of London, and was opened by Alderman and Sheriff Waley-Cohen, deputising for the Lord Mayor. Miss Jane Sturgeon of I.C.I. Safety Department was in the chair, and Mr. H. R. Payne, head of Safety Department and chairman of the national executive committee of the Royal Society for the Prevention of Accidents, summed up at the end of the day.
(*Picture on page* 373.)

I.C.I. SCARF

In the September 1955 issue of the *Magazine* notice was given that the I.C.I. scarf, made of fine 'Terylene' in the same pattern as the I.C.I. tie, was available at a cost of 10s. 6d., tax included.

Should any I.C.I. pensioners be interested in obtaining a scarf applications should be addressed to Central Staff Department, Head Office Supply Section, Imperial Chemical House, Millbank, S.W.1.

HEAD OFFICE

Deputy Overseas Controller Retires

Mr. A. E. J. Gawler, Deputy Overseas Controller, has retired after 30 years' service.

Mr. A. E. J. Gawler

Mr. Gawler joined Brunner, Mond & Co. in 1925; he was appointed secretary of the Magadi Soda Co. in 1927, and later became chairman. In 1936 he joined the Overseas Sales Department of I.C.I., and two years later he became the first head of India Department. He was appointed Deputy Overseas Controller in 1950 and an Alkali Division director in 1952.

Mr. S. P. Leigh, Overseas Controller, writes:

Quite a lot of people in the Company will find it difficult after all these years to accustom themselves to the thought that Alec Gawler has left us. To me personally his retirement is something of a milestone, marking as it does the end of such a long road we have travelled together and in such harmony that the Company might almost be asked to present an I.C.I. Dunmow Flitch—at least to Alec—for his unfailing kindness and understanding.

We first met in India in the early 'twenties, before I.C.I. was thought of, and it may have been some pointer to our future relations that of three photographs in his rooms in Madras two proved to be portraits of close friends of mine, although he and I had never heard of each other before that day.

For the last twenty-five years or more—which is a long time by any standards—we have been working together in the closest association, a fact for which I shall always be grateful.

With so long and close a relationship this note inevitably tends to be rather personal, but I am only one of a great number who will regret Alec's departure and miss his shrewd judgment, his utter honesty and his all-embracing good will towards his fellows. During the evacuation of the Company in 1939–40 a number of us lived together in a bachelor mess at Mill Hill, which was commonly referred to as "Bloodstains." During that period our old friend Harold Irwine, then our most efficient mess president, christened Alec "the old Buddha." Somehow or other that title seemed most apt in describing his particular brand of wisdom and benevolence which have been such an asset to the Company over all these years.

During his long career Alec has acquired many distinctions, but probably the one which will be longest associated with his name is the chairmanship of the Magadi Soda Company, to which he was appointed in 1945 after being successively secretary and director of that company for the previous eighteen years. The sound and prosperous state of Magadi owes a very great deal to his long association with it.

BILLINGHAM DIVISION

A Lively Time Coming

A forecast that in the next few years the Division and the Company are going to have quite a lively time meeting growing overseas competition was made by Mr. W. J. V. Ward, the Billingham Division chairman, when he spoke to Billingham Division Council recently.

He also told the Council that the fine weather of the summer had brought a great influx of fertilizer orders and by the end of the season record tonnages of ammonia fertilizers had been made and distributed, and all the C.C.F. that could be made had been sold. The fine weather had also sent up sales of 'Drikold,' and during the summer new daily, weekly and monthly despatch records had been achieved.

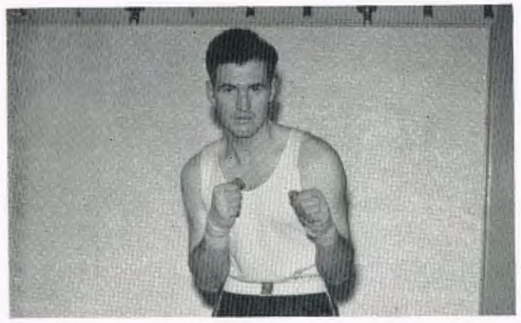
Mr. Ward announced that the percentage of people who had left Billingham during the last year, including those who had had to leave for reasons beyond their control, had fallen to a new low of 9·68. Mr. Ward commented: "It shows that when people come here, by and large, they stay."

DYESTUFFS DIVISION

Grangemouth Boxer in International Match

Mr. Drew Findlay, a fitter in the Engineering Department Workshops at Grangemouth Works, represented the Scottish Boxing Association in the middleweight class at the Scotland *v.* Russia tournament at Paisley Ice Rink on 17th October. Although he was beaten by the middleweight Gennadi Shatkov in the contest against the Russian amateurs, he put up a very plucky show against a more experienced and stronger opponent.

Mr. Findlay, who is 24 years of age, is a local boy and lives in Laurieston. He started his apprenticeship in



(*Photo: Scotsman Publications*)
Middleweight Drew Findlay of Grangemouth

Carron Works, and his first interest in boxing was as a member of the Army Cadet Corps, when he was taken in hand by Mr. J. Grant of the Grangemouth Amateur Boxing Club.

To get wider experience than was then possible in a Grangemouth club he went to the Scottish National Amateur Boxing Club in Glasgow. One or two setbacks when he was nearly 18 made him decide to give up the game, and for three years Drew did not have the gloves on. Eventually he was persuaded to rejoin the Grangemouth club, and since then he has moved from success to success. In all he has had 53 fights, of which he has lost only 16.

This season he was middleweight champion of the Eastern Districts and runner-up at the same weight of the Scottish championship. He also fought in the light-heavyweight class in the Eastern Districts championships and was beaten in the final. He is looking forward to defending his Eastern Districts title this month and to having another tilt at the Scottish championship crown in January.

Drew Findlay's father was also a fitter at Grangemouth, where he served for 27 years.

GENERAL CHEMICALS DIVISION

Mr. Edgar P. Chance

Mr. Edgar Chance, third son of Alexander M. Chance, who is often considered to be the true founder of Chance and Hunt Ltd., died on 24th October, after a long illness, at the age of 74. He was a managing director at Oldbury until the formation of the General Chemicals Group in 1929; he then took charge of the Chance and Hunt London Office, and retired in 1940.

Mr. Chance was a noted ornithologist and egg-collector. He specialised in the study of the cuckoo, and after many years' patient observation he was able to publish *The Cuckoo's Secret*, in which he put forward his theories on the laying habits of the bird. He followed this, in 1940, with *The Truth About the Cuckoo*, which was accepted as proving conclusively that the cuckoo laid its eggs direct into the nest of the host bird and did not lay them elsewhere and carry them to the nest.

Mr. Chance's practice of collecting birds' eggs led him into many disagreements with those who believed that it was cruel and harmful. But he gained acceptance in the end for his own view, which he supported by his observations, that however many times during the breeding season a bird's nest is destroyed or the whole clutch removed the bird will rebuild the nest or lay a new clutch. His own collection of 24,000 eggs is now in the Natural History Museum, South Kensington.

Mr. Chance's eldest brother, Mr. A. Macomb Chance, who was also associated with the firm of Chance and Hunt at one time as managing director, but who retired shortly after the first world war, died less than a month before him at the age of 84; the surviving brother is Mr. Kenneth M. Chance of British Plastics Ltd.

METALS DIVISION

Mr. T. McLauchlan Retires

Service of 48 years with the Company ended with the retirement recently of Mr. T. McLauchlan, managing director of Steatite and Porcelain Products Ltd.

Mr. T. McLauchlan

Mr. McLauchlan spent the whole of his working life with I.C.I. and its predecessors, his career beginning when he joined Nobel's in 1907. In 1925 he was transferred to the Treasurer's Department at the Company's head office in London, and it was in the course of duty there that he paid a visit to Stourport, where he installed a costing system for the newly established Steatite and Porcelain Products Ltd.

In 1935 the last phase of his Company service began with a move to Stourport as assistant to the general manager of S. & P.P. Four years later he was appointed managing director, and he remained to enjoy ten years of the fruitful post-war era in which business increased, the works were expanded and new office blocks were built.

Mr. McLauchlan has returned to his native Scotland with an immense fund of recollections covering a career of considerable achievement.

Thirty Times Three

For the first time in the history of the Metals Division three brothers have received 30-year service awards at the same time. They are John, Frank and Arthur Hewitt, all of Allen Everitt Works.

John, who is 54, and Arthur (51) are both employed in the Casting Shop. The "middle one," a year older than Arthur, is a tool storekeeper.

The Hewitt brothers of Allen Everitt Works

While, of course, the Hewitt brothers stole most of the limelight at the ceremony at Witton on 21st October, Dr. Holroyd in making the presentations also met other examples of family service in Metals Division—Mr. and Mrs. A. E. Holmes (Amal), the twin brothers Hancock (Kynoch Works), and Mr. B. Greenway (Elliott Works), whose uncle also qualified for a 20-year award but was unfortunately unable to be present.

PAINTS DIVISION

Retirement of Managing Director

Dr. D. G. Hopkins, a Division joint managing director, retired at the end of October after 33 years' service.

Dr. D. G. Hopkins

Dr. Hopkins came to I.C.I. in 1916 as a plant superintendent at the Pembrey (South Wales) Works of Nobel's Explosives Co. When this works closed in 1919 he took up an appointment as lecturer in chemistry at the University of Wales. From 1922–25 he was a research assistant to the Professor of Physical Chemistry at the University of Bristol.

He then returned to Nobel Division, first as a research chemist and later as a member of the Technical Department. He was temporarily seconded in 1928 to the Slough works of Naylor Bros. (London) Ltd., one of the predecessor companies of Paints Division. During his twenty-seven years with Paints Division Dr. Hopkins in turn served as Slough works manager, assistant technical manager, Division supply manager, production director and, since 1st January 1949, as a joint managing director.

Dr. Hopkins has devoted much of his leisure time to music. At one time a pupil of Dr. Vaughan Thomas, father of Wynford Vaughan Thomas, he was for many years a vice-president of the Maidenhead Music Society.

He will be remembered as an after-dinner speaker *par excellence*, with an uncanny gift of striking just the right note for the occasion with point and humour.

Soviet Visitors

A Russian delegation which visited Slough in October included in its tour a visit to the Paints Division factory.

In the delegation were the deputy chairman of the council of ministers of the U.S.S.R., the minister of light industry, the deputy minister of the U.S.S.R. commercial industry, the minister of consumer goods, and the director (a lady) of the Leningrad Fashion House.

The delegation was shown round the Slough site by the Division Production Director, Mr. J. C. Lithgow, and the Works Manager, Mr. G. Costley. They were keenly interested in all they saw, particularly in automatic methods and controls. They spent some time seeing the kitchens and canteen and showed an alert interest in the prices charged for the various meals served.

WILTON WORKS

Still Growing

Already this year, records based on the annual increase in the number of employees at Wilton have been broken. Staff, payroll and contractors' men totalled approximately 9000 at the end of September—2000 more than on 1st January. Biggest increase in previous years was during 1953, but then only 1500 more people were employed in the course of twelve months.

The chairman, Mr. C. M. Wright, referred to these figures in his address to the Site Council on 10th October. He said that they could best illustrate the considerable expansion on the site, which he described as the most striking feature in reviewing activities at Wilton during the first nine months of the year.

Of the construction programme, he said that this year's target for extending the factory was £11·8m. Last year it had been just under £10m., while in 1956 and 1957 it would be between £12m. and £15m. He added, however, that it was unlikely that this year's figure would be reached. There had been delays because of the dock and rail strikes and because there was a shortage of staff, particularly of engineers and draughtsmen.

"At the present time," said Mr. Wright, "particular emphasis is given to No. 2 'Terylene' Plant and the associated Paraxylene Plant, but the second 'cracker' and the Butadiene Plants are due for completion soon after the middle of next year. The construction of another boiler twice as large as the present h.p. boilers has commenced, and activity on the Nylon Plant is increasing month by month; it is hoped to complete this large project within the next two years."

I.C.I.A.N.Z.

Grasshopper Plague

Supplies of 'Gammexane' miscible oil were rushed from the Yarraville and Villawood factories of I.C.I.A.N.Z. to

South Australia when a plague of grasshoppers, the worst since 1934, appeared recently.

The two factories worked round the clock to produce the urgently needed 'Gammexane,' which was applied by low volume and knapsack sprays. At the end of October it was estimated that some 300,000 million grasshoppers, weighing 30,000 tons, had been killed—but that was only a fraction of the number that had hatched out, and the attack went on.

In the last major plague of grasshoppers, in 1934, the principal weapon used was arsenical bait, which proved quite useless and was dangerous to livestock.

Australia sees 'Terylene'

A full campaign of press and radio publicity introduced 'Terylene' to Australia last month. The campaign coincided with the arrival in Australia of Mr. P. C. Allen, Fibres Director of I.C.I., and Dr. E. D. Kamm, Commercial Director of the 'Terylene' Council, to make a survey of the potential market.

'Terylene' has been available to Australian mills since March, and an exhibition of fabrics and garments opened by Dr. Kamm in Melbourne included Australian products as well as a complete collection of *haute couture* garments flown out by the 'Terylene' Council. The exhibition was later moved to Sydney.

I.C.I. (NEW YORK) LTD.

New Look

The fourth house-moving in its history has brought Imperial Chemical Industries (New York) Ltd. to roost in the nineteenth floor of a Manhattan skyscraper—the Look Building at 488 Madison Avenue. Mr. E. A. Bingen (Overseas Director of I.C.I.) and Mrs. Bingen officially opened the new air-conditioned offices, and a cocktail party was held to celebrate the event.

The latest move was made to allow for a substantial increase in staff and a broader field of activity. It was the same story in 1920, when Explosive Trades Ltd. moved from a few rooms in downtown New York to West 44th Street, and again in 1933 when as Nobel Industries Ltd. the company took up larger quarters at 285 Madison Avenue. The last move was when the still expanding I.C.I. (New York) Ltd., as it had then become, moved from Madison Avenue to Fifth Avenue in 1942.

The present staff numbers nearly sixty. They are consoled for the latest upheaval by the pleasant quarters they now occupy.

(*Photo:* Look Magazine)

I.C.I. (New York) has moved to the nineteenth floor of this Manhattan skyscraper

HOLIDAY ARTICLE WINNER

The winner of the competition for an article about a holiday spent abroad is Miss Judith Baldwin, who happens to be the daughter of a noted *Magazine* contributor, Dr. A. W. Baldwin of Dyestuffs Division. She works as a shorthand typist in the Biological Department at Hexagon House, Blackley. Her article has the sort of charm which only a really happy holiday can give. With a girl friend she went to Italy on a conducted tour; they broke away from the rest of the party and succeeded in enjoying themselves no end.

Unfortunately the Editor has been unable to award the prize for an article about a holiday spent in the British Isles. This is because no article in this section came up to *Magazine* standard. It is proposed to put the prize money on one side and to offer higher prizes next year.

Curiously enough, the competition this year attracted exactly the same number of entries as last year—a total of 52. But the literary standard was perhaps not quite so high.—EDITOR.

ANSWERS TO QUIZ ON PAGE 363

A. (1) King Arthur. (2) "A piece of brass." (3) The spear side. (4) Very special old pale. (5) Dumfries-shire, near Cambridge, and Carmarthenshire, respectively. (6) Fourth-century Latin version of the Bible.

B. (1) Dr. Johnson. (2) Mrs. Gamp. (3) Chekhov. (4) The United States of America. (5) Oscar Wilde. (6) A hot baby.

C. (1) Fleetwood. (2) Paris. (3) Wapping. (4) Madrid. (5) Maidenhead. (6) Colombo. (7) Pekin. (8) The Hague. (9) Venice. (10) Lisbon.

D. (1) Derby County. (2) Harry Bradshaw. (3) Brooklands. (4) Albert Trott. (5) Aston Villa. (6) The racecourse at York.

E. (1) Aberdeen. (2) Bristol. (3) Sevenoaks. (4) New York. (5) s.s. *United States*. (6) "Pacific" locomotive No. 16 of the 5th series, Northern Region, French Railways. (7) Berlin. (8) Brussels.

F. (1) Zambra. (2) Tozer. (3) Podder. (4) Harry/Harry/Hew. (5) Misael. (6) Dunfermline. (7) Newport Pagnell.

Convalescent Cargo

By Neil Marr (Metals Division)

Illustrated by Peter Morris

FOR a doctor to be at the receiving end of medical advice is an interesting and salutary experience. This was the position in which I found myself last January, after spending a year in hospital and enduring five sessions in the hands of my surgical colleagues. To put it mildly, I was somewhat jaded. So, wishing never to see a surgeon again, I sought the advice of a wise physician. It was brief and to the point.

"What you want to do now, old man, is to get away somewhere, preferably warm, enjoy yourself, and forget you've been ill."

Having preached on this text myself many times I naturally liked the idea, and after discussing the matter with my wife we decided to try a voyage on a passenger-carrying cargo vessel. The most suitable ship, as regards dates and itinerary, was a brand new Yugoslav motor ship—the m.v. *Lovcen*—making her maiden voyage from London.

We booked up and were due to sail on 12th February, but we soon learned that the fate of cargo vessels is entirely in the hands of a mystery man in the background—the agent—who decides when and where the ship will go. We were anchored off Gravesend for two whole days, loading explosives, but being an old sailor the mere fact of being on a ship gave me a nostalgic thrill, so I did not mind.

The moment we reached the open sea it became apparent that our good ship was a roller, and after Ushant the Bay of Biscay behaved with traditional belligerence and threw us about like corks. "It'll be all right after Finisterre," said I, the old mariner. So also said the Captain and Chief Officer (who spoke excellent English) and we all felt optimistic.

Alas for our forecasts! The *Lovcen* did everything but sink: apart from rolling and pitching, she appeared to take a fiendish delight in standing up on her stern and shaking herself. Perhaps she was convulsed with laughter at the plight of her wretched inhabitants!

Our hopes switched to the Straits of Gibraltar, but again we were doomed to disappointment. We were storm-tossed all the way through the Mediterranean and the Adriatic until, after nine days at sea, we finally docked at Rijeka in Yugoslavia.

The weather in the northern Adriatic, apart from one spring-like day in Venice, reminded me of a Canadian winter, and my wife and I felt that we had made the biggest mistake of our lives. What was worse, there was no escape. On being told that the *Lovcen* would remain in Rijeka for a fortnight, we decided to go south to Dubrovnik. We consulted the Putnik, the nationalised Thomas Cook of Yugoslavia, and were told that all the hotels in Dubrovnik would be open, that the climate would be like an English summer (for what that's worth!) and that there would be a profusion of mimosa, bougainvillaea and other subtropical flowers.

Nothing could have been further from the truth, for when we arrived, after an overnight voyage by coastal steamer, the climate was arctic, the trees and bushes were bare, and not a single hotel was open. To cheer us further, we were told that a large British liner had had to abandon the landing of passengers that morning because of an unusually violent sirocco.

Eventually we persuaded a sleepy porter at an hotel to take us in for one night. The room was on the third floor—no lift, no carpets, no heating, and minimal electricity. By great good fortune we met, in a dark corridor, Maria.

Dear Maria! Once a noble lady and now a noble

housekeeper, she provided us with extra blankets and eiderdowns, a small electric ring and a half-pint saucepan. I shall never forget the moment when my wife plugged the flex into the so-called socket—a hole in the wall; the crackles, sparks and flashes would have given any I.C.I. safety officer a heart attack. Eventually the element began to glow, and after what seemed hours the water boiled, though the waste of the precious liquid in transit from saucepan to narrow-necked hot-water bottles was heart-breaking.

Somehow we survived till morning, and dear Maria produced some tea. It looked and tasted like an infusion of stale straw, but how welcome it was! On coming downstairs we were welcomed by the English-speaking receptionist, who begged us to stay on and offered to open the hotel for us. This was indeed an honour, and we gladly accepted.

Gradually things began to happen. A waiter appeared, the kitchen started to function, carpets were laid, doors were hung where previously there had been gaps in the wall, and lukewarm central heating was laid on. In spite of almost hourly promises, the lift did not operate until the fifth day, but we managed ("enjoy yourself") to declare the bar open. We had three days without hot water, and this was disappointing, since we had been promoted to a magnificent second-floor room with bathroom attached—the largest bath I have ever seen.

During this time I was carrying out my convalescent regime—daily walks (gradually increasing) and rest. We got to know and love Dubrovnik—and how delightful it was! The people, as a previous writer in the *Magazine* has said, are charming, and though poor are most hospitable and unbelievably honest.

We were soon well known in the small community as the English people who opened the —— Hotel a month too soon. One day, in the harbour area, we met a Yugoslav lady who spoke perfect English with a strong Swansea accent, and I felt as if I were back in Metals Division again. Her father had married an Austrian before the first world war and was interned in England, the family being brought up in Swansea. It's a small world!

We were told that there is no spring in Dubrovnik—that the summer just followed suddenly on the winter. We did not, of course, believe it, having in mind the Putnik and the lift, but it was true. One morning we awakened to hot sunshine and singing birds and we sunbathed on the balcony—a truly amazing metamorphosis.

We also recorded vivid impressions of the difference between a resort "off" and "on" season when one day an American ship arrived with six hundred passengers. Dubrovnik was transformed in an hour. National costumes were donned, beggars appeared from nowhere, and the shops and cafés did a flourishing trade. The weather remained beautiful until the end of our stay there, and we were sorry to go.

After loading cargo, mainly timber, in Dubrovnik port, we called at Messina and Catania in Sicily and crossed the Mediterranean to Algeria, where we stopped at Mustaganem, Oran and Nemours.

Leaving Nemours, we steamed along the north coast of Africa. Now we were getting to know the *Lovcen* at her best. She is a sleek, fast vessel, and we raced every ship in sight, an achievement which has tremendous snob value. The weather was perfect, the sea was calm, and I began to realise that my physician was wise after all.

Our next port was Casablanca, but we called first for two days at a small town, Fedalla, ten miles to the north. Fedalla is basically an oil station and refinery, but rapidly growing around the refinery there is a charming resort with beautiful villas and hotels, magnificent bathing beaches and green fields smelling of clover and wild thyme. I could have spent a long holiday in Fedalla.

Casablanca is the New York of North Africa, full of skyscrapers and gigantic American cars. The officers were not allowed ashore at night because of trouble in the town, and one night on board my wife

Dear Maria, Once a noble lady and now a noble housekeeper, she provided us with extra blankets and eiderdowns . . .

and I heard the most wonderful male voice singing—for all the world like a Welsh miners' choir. It was our officers, Captain and all, who were having a sing-song in their dining room.

We were invited to join them, and spent a rapturous three hours listening and sometimes joining in. They sang to the accompaniment of the Chief Engineer on a guitar, the Chief Officer, a handsome Montenegrin giant, supplying the bass with a voice like Chaliapine. There were songs of all nationalities, including English, but we loved most their own folk music, which varied from the lilt of love songs to the wild rhythm of the czardas. A memorable evening.

Tangier, our next port of call, is quite fantastic. I knew it well twenty years ago; it is a free international zone now, dominated by the influence of the almighty dollar. At every street corner one is approached by spivs offering to change money, and by far the best rates are given for dollar notes. It was a pity we had none—one can buy anything in Tangier, and there is no duty.

All good things come to an end, and we sailed for home via Antwerp. In contrast to the outward bound voyage, the bay was like a millpond and the weather gloriously warm. We docked in London on Easter Saturday, exactly eight weeks after going on board. I had been away, I had enjoyed myself, and I had forgotten that I had ever been ill.

"Perugian Woman"

Photo by H. Emmett, F.R.P.S. (Alkali Division)